## CLAIMS

1.    An apparatus comprising:

a microcontroller configured to (i) send or receive data over one or more data lines when in a first mode and (ii) be programmed through said data lines when in a second mode.

2.    The apparatus according to claim 1, wherein said microcontroller is further configured to be programmed at a final test stage.

3.    The apparatus according to claim 2, wherein said microcontroller is further configured to be re-programmed after said final test stage.

4.    The apparatus according to claim 2, wherein said microcontroller is configured to be programmed with dedicated test or calibration programs which are over written at said final stage.

5.    The apparatus according to claim 1, wherein said microcontroller comprises a universal serial bus microcontroller.

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6. The apparatus according to claim 1, wherein said input pins are configured as serial shift register clock and data inputs.

7. The apparatus according to claim 1, wherein said microcontroller is configured to be reworked.

8. The apparatus according to claim 1, wherein said microcontroller is configured to be programmed with calibration coefficients during manufacturing or testing.

9. The apparatus according to claim 1, wherein said microcontroller comprises:

a communication engine configured to interface with other devices through one or more input pins;

a programming interface configured to interface said communication engine; and

a memory configured to interface with said programmable interface.

10. An apparatus comprising:

means for operating a microcontroller to send or receive data through one or more data lines when in a first mode; and

means for programming said microcontroller through said data lines when in a second mode.

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11. A method for programming microcontrollers, comprising the steps of:

(A) sending or receiving data through one or more data lines when in a first mode; and

(B) programming said microcontroller through said data lines when in a second mode.

12. The method according to claim 11, wherein step (B) further comprises:

determining if a programming state is enabled.

13. The method according to claim 12, wherein step (B) further comprises:

waiting for a programming token.

14. The method according to claim 13, wherein step (B) further comprises:

determining if said programming token is received.

15. The method according to claim 14, wherein step (B) further comprises:

entering said second mode.

16. The method according to claim 11, wherein said second mode comprises a programmable state.

17. The method according to claim 11, wherein step (B) is further responsive to a programming voltage.

18. The method according to claim 11, wherein said data lines comprise communication lines.

19. The method according to claim 11, wherein step (B) further comprises:

re-programming said microcontroller.

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20.  The method according to claim 19, wherein step (B)

further comprises:

programming said microcontroller at a final test stage;

and

5       re-programming said microcontroller after said final test

stage.